IN THE CLAIMS:

Please substitute the following claims for the same numbered claims in the application:

1. (Currently Amended) A method of handling packet traffic on a packet-based network, the method comprising ~~the steps of~~:

receiving, at a network node, a flow of packets from the packet-based network;

determining, for each of the received packets, a metric at least partly based on the duration of transmission for the received packet;

calculating one or more statistical measures associated with values of said metric for the received packets, wherein the statistical measures include an average value;

assigning, to each of the packets, a relative service priority on the basis of the metric; and

queuing one or more of the packets in a queue and transmitting the queued packets from the network node.

2. (Cancelled).

3. (Currently Amended) The method as claimed in claim 1, further comprising ~~the step of:~~ preferentially dropping packets that have a lower relative service priority in ~~favour~~ favor of packets that have a greater relative service priority, prior to the step of queuing of one or more of the packets.

4. (Currently Amended) The method as claimed in claim 1, further comprising ~~the step of:~~

marking packets that have a lower relative service priority, prior to the ~~step of~~ queuing of one or more of the packets.

5. (Currently Amended) The method as claimed in claim 1, further comprising ~~the step of:~~ dynamically allocating a packet drop probability for one or more of the packets, based on the assigned relative service priority for the respective packets, prior to the ~~step of~~ queuing of one or more packets, wherein packets with a higher relative service priority are allocated a lower packet drop probability and packets with a lower relative service priority are allocated a higher packet drop probability.

6. (Currently Amended) The method as claimed in claim 5, wherein said ~~step of~~ dynamically allocating a packet drop probability is preformed if an average number of queued packets, at the network node, falls between maximum and minimum predetermined thresholds.

7. (Currently Amended) The method as claimed in claim 6, further comprising ~~the step of:~~ dropping packets if an average number of queued packets, at the network node, exceeds the maximum predetermined threshold.

8. (Currently Amended) The method as claimed in claim 6, further comprising ~~the step of:~~ admitting packets if an average number of queued packets, at the network node, falls below the minimum predetermined threshold.

9. (Currently Amended) The method as claimed in claim 1, wherein said metric ~~is~~ comprises the value of time taken by the packet to traverse the network from the source to destination, and the packet's corresponding acknowledgment to traverse the network from the destination to source.

10. (Original) The method as claimed in claim 1, wherein said metric incorporates a hopcount representative of the number of nodes traversed by the packet from source of the packet to the network node.

11. (Cancelled).

12. (Currently Amended) The method as claimed in claim 11, wherein the statistical measures further include a maximum value and a minimum value.

13. (Original) The method as claimed in claim 11, wherein two classes of relative service priority, comprising a higher relative service priority and a lower relative service priority, are assigned to the received packets depending on a comparison of the metric with its corresponding average value for the received packets.

14. (Original) The method as claimed in claim 1, wherein the packet-based network transmits internet protocol (IP) packets.

15. (Original) The method as claimed in claim 14, wherein the packet-based network uses the transmission connection protocol (TCP).

16. (Currently Amended) The method as claimed in claim 15, wherein the metric ~~is~~ comprises the value of the round trip time (RTT) field in the TCP packet header.

17. (Currently Amended) A method of handling packet traffic on a packet-based network, the method comprising steps of:

receiving, at a network node, a flow of packets from the packet-based network;

inferring, for each of the received packets, a connection characteristic at least partly representative of the duration of transmission for the received packet;

assigning, to each of the packets, a relative service priority on the basis of the inferred connection characteristic; ~~and~~

dynamically allocating a packet drop probability for one or more of the packets, based on the results of the assigned relative service priority; and

queuing one or more of the packets in a queue and transmitting the queued packets from the network node.

18. (Currently Amended) The method as claimed in claim [[16]] 17, further comprising ~~the step of:~~ preferentially dropping packets that have a lower relative service priority in ~~favour~~ favor of packets that have a greater relative service priority, prior to the ~~step of~~ queuing of one or more of the packets.

19. (Currently Amended) The method as claimed in claim 18, further comprising ~~the step of:~~ marking packets that have a lower relative service priority, prior to the ~~step of~~ queuing of one or more of the packets.

20. (Currently Amended) The method as claimed in claim 17, ~~further comprising the step of: dynamically allocating a packet drop probability for one or more of the packets, based on the results of the assigned relative service priority, prior~~ to the ~~step of queuing one or more of the packets,~~ wherein packets with a higher relative service priority are allocated a lower packet drop probability and packets with a lower relative service priority are allocated a higher packet drop probability.

21. (Currently Amended) The method as claimed in claim 20, wherein said ~~step of~~ dynamically allocating a packet drop probability is preformed if an average number of queued packets, at the network node, falls between maximum and minimum predetermined thresholds.

22. (Currently Amended) The method as claimed in claim 21, further comprising ~~the step of:~~ dropping packets if an average number of queued packets, at the network node, exceeds the maximum predetermined threshold.

23. (Currently Amended) The method as claimed in claim 21, further comprising ~~the step of:~~ admitting packets if an average number of queued packets, at the network node, falls below the

minimum predetermined threshold.

24. (Original) The method as claimed in claim 20, wherein a plurality of different classes of relative service priority are available to be assigned to the received packets depending upon the identity of the connection characteristic for respective packets.

25. (Original) The method as claimed in claim 17, wherein the packet-based network transmits internet protocol (IP) packets.

26. (Original) The method as claimed in claim 17, wherein the packet-based network uses the transmission connection protocol (TCP).

27. (Currently Amended) A network node apparatus for handling packet traffic on a packet-based network, said apparatus including:

means for receiving, at a network node, a flow of packets from the packet-based network;

means for determining, for each of the received packets, a metric at least partly based the duration of transmission for the received packet;

means for comparing, for each of the received packets, said metric with a corresponding reference value;

means for assigning, to each of the packets, a relative service priority on the basis of the comparison;

means for dynamically allocating a packet drop probability for one or more of the

packets, based on the results of the assigned relative service priority; and

means for queuing one or more of the packets in a queue and transmitting the queued packets from the network node.

28. (Currently Amended) A network node apparatus for handling packet traffic on a packet-based network, said apparatus including:

means for receiving, at a network node, a flow of packets from the packet-based network;

means for inferring, for each of the received packets, a connection characteristic at least partly representative of the duration of transmission for the received packet;

means for assigning, to each of the packets, a relative service priority on the basis of the inferred connection characteristic; ~~and~~

means for dynamically allocating a packet drop probability for one or more of the packets, based on the results of the assigned relative service priority; and

means for queuing one or more of the packets in a queue and transmitting the queued packets from the network node.

29. (Currently Amended) A computer software program, recorded on a medium and capable of execution by computing means able to interpret the computer software program, for handling packet traffic on a packet-based network, said computer software program comprising:

code means for receiving, at a network node, a flow of packets from the packet-based network;

code means for determining, for each of the received packets, a metric at least partly

based the duration of transmission for the received packet;

code means for comparing, for each of the received packets, said metric with a corresponding reference value;

code means for assigning, to each of the packets, a relative service priority on the basis of the comparison; ~~and~~

code means for dynamically allocating a packet drop probability for one or more of the packets, based on the results of the assigned relative service priority; and

code means for queuing one or more of the packets in a queue and transmitting the queued packets from the network node.

30. (Currently Amended) A computer software program, recorded on a medium and capable of execution by computing means able to interpret the computer software program, for handling packet traffic on a packet-based network, said computer software program comprising:

code means for receiving, at a network node, a flow of packets from the packet-based network;

code means for inferring, for each of the received packets, a connection characteristic at least partly representative of the duration of transmission for the received packet;

code means for assigning, to each of the packets, a relative service priority on the basis of the inferred connection characteristic; ~~and~~

code means for dynamically allocating a packet drop probability for one or more of the packets, based on the results of the assigned relative service priority; and

code means for queuing one or more of the packets in a queue and transmitting the

queued packets from the network node.